

REMARKS

In the last Office Action, the drawings were objected to under 37 C.F.R. § 1.83(a) as not showing every feature of the invention specified in the claims. A separate submission to the Office Draftsperson is attached with a proposed change to Figure 4 which it is believed removes the objection.

The abstract of the disclosure was objected to because of several informalities and accordingly, it has been cancelled and a substitute abstract of the disclosure is submitted herewith basically incorporating the changes suggested by the Examiner in the last Office Action.

In the last Office Action, claims 1-2, 5-6, 8, 10, 13-15 and 24-25 were rejected under 35 U.S.C. § 102(b) as being anticipated by Wilt et al. (USP 5,737,122). Claims 9, 16 and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilt. Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilt in view of Roustaei (USP 5,532,467).

Claims 7, 18-22 and 27-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilt in view of Wang et al. (USP 5,521,366). Claims 11-12, 23 and 31-35 were objected to as being dependent upon a rejected base claim but would be allowable if

rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

Claims 1-35 inclusive have been cancelled without prejudice in order to advance the prosecution of the present application and new claims 36-70 inclusive have been substituted therefor. Reconsideration and allowance of the application are respectfully requested in view of the following remarks.

New claim 36 is substantially original claim 1 but better clarifies the essential features of the invention and the main differences from the cited prior art. In particular, claim 36 introduces the features that the optical codes to be read are "placed at variable distances (see line 2 of original claim 1) derivable from page 1, lines 31-34 and page 2, lines 31-33 of the description as originally filed, introducing the feature that the first and second array of light sources are "selectively activated in order to respectively define a first and at least a second illumination configuration different from the first one" derivable from page 3, line 3 of the specification as originally filed, and clarifying that the first illumination configuration is "for illuminating an optical code placed within a first distance range" and that said at least a second illumination configuration is "for illuminating an optical code placed within at least a

second distance, said at least a second distance range being different from said first distance range". Support for this amendment can be found on page 5, lines 7-12, page 13, table 1 and page 16, lines 21-23 and 29-31 of the specification as originally filed.

New method claim 37 is substantially original claim 24 and is consistent with new claim 36, claim 38 corresponds to claim 11, claim 39 corresponds to claim 23. Claims 40 and 41 correspond essentially to claims 31 and 32, respectively, but with proper antecedent basis. Claims 42-70 correspond to original claims.

New claim 36 is clearly novel and patentable over the cited prior art documents, in particular Witt, Wang and Roustaei since none of them disclose an optical code reading apparatus comprising a first and second array of light sources wherein "the first and second array of light sources are selectively activated in order to respectively define a first illumination configuration for illuminating an optical code placed within a first distance range and at least a second illumination configuration, different from the first one, for illuminating an optical code placed within at least a second distance range different from the first one. For the same reason, new claim 37 is also novel and patentable over the prior art.

One of ordinary skill in the art would not have arrived at the claimed invention from the cited references, taken either alone or in combination with each other. Neither Wilt nor Wang disclose a device capable of reading codes placed at variable distances by including at least two arrays of light sources. As to Roustaei, it discloses a code reader having a plurality of light sources that are oriented so as to emit light beams according to many angles, thus forming a fan of light. It does not disclose nor suggest to activate the light sources selectively in order to provide different lighting configurations suitable for different ranges of the reader-to-code distance.

Wilt teaches to detect two different type of marks which are placed at a predetermined and fixed distance from the reader. This is derivable from the paragraph on Column 5, lines 45-58, Column 6, lines 7-9 and 24-45 and from Figures 4 and 5, where it is disclosed and shown that the substrate must have a predetermined and fixed location with respect to the reader. No suggestion can be derived from Wilt in order to read optical codes placed at variable distances. Wilt's only suggestion is that in order to correctly read either soft or hard marks, different illumination sources should be used, wherein some are particularly adapted for reading soft marks and other ones are particularly

adapted for reading hard marks. However, such a suggestion is not pertinent with the problem of the referred invention.

Wang discloses a reader having a fixed focus distance (or depth of field) which is defined as the distance between the reader and the code wherein two angled beams of light intersect each other (See Column 4, lines 62-66, Column 6, lines 38-50 and Figure 4). No suggestion can be derived from Wang in order to read optical codes placed at variable distances by using several illumination means to be selectively activated in order to define different illumination configurations suitable for illuminating optical codes placed within different distance ranges. Conversely, Wang suggests reading the optical code after the user has manually brought the code into focus.

In summary, claims 36-70 inclusive are believed to be patentable over the references of record, taken either alone or in combination with each other. Accordingly, it is respectfully requested that these claims be allowed and the application passed to issue forthwith.

If for any reason the Examiner is unable to allow the application on the next Office Action and feels that an interview would be helpful to resolve any remaining issue, the Examiner is respectfully requested to contact the undersigned attorney for the

Appl. Serial No. 09/320,643

PATENT APPLICATION

purpose of arranging such an interview.

Applicant submits concurrently herewith a Petition and Fee Letter for a Three Month Extension of Time and check for \$445.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee under 37 CFR 1.16 and 1.17, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

Robert V. Sloan / Bruce E. Kramer  
Reg. No. 33,725  
Robert V. Sloan  
Registration No. 22,775

RVS:jlq

SUGHRUE, MION, ZINN,  
MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, D.C. 20037  
Telephone: (202) 293-7060

Facsimile: (202) 293-7860

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APPENDIX

IN THE SPECIFICATION:

The specification is changed as follows:

Page 1, between the title and the first paragraph 1:

Change the heading from "DESCRIPTION" to --BACKGROUND OF  
THE INVENTION--.

Page 1, between the fourth and fifth full paragraphs:

Insert the heading --SUMMARY OF THE INVENTION--.

Page 9, between the fourth and fifth full paragraphs

(i.e., between lines 24 and 25):

Insert the heading --BRIEF DESCRIPTION OF THE DRAWINGS--.

Page 10, just before the first full paragraph (i.e.,  
between lines 10 and 11):

Insert the heading --DETAILED DESCRIPTION OF THE  
INVENTION--.

IN THE CLAIMS:

Please cancel Claims 1-35 without prejudice or disclaimer.

Claims 36-70 are added as new claims.

**IN THE ABSTRACT:**

**The Abstract is changed as follows:**

[The invention relates to an] An apparatus and a method for reading an optical code[. The apparatus comprises] has a casing with a reading window[; the]. The casing [comprises] includes an illumination [means] device acting through the reading window on an optical code to be read, a detection [means] device responsive to light scattered from the illuminated optical code into the casing through the reading window, and an objective lens interposed between the reading window and the detection [means] device, in a position to pick up the light scattered from the illuminated optical code and project this light onto the detection [means] device. The detection [means comprises] device has a plurality of light-sensitive elements effective to convert the light to electric signals representing the light image[. The apparatus is characterized in that], wherein the illumination [means comprises] device has a first array of light sources active in a first illumination configuration, and at least a second array of light sources active in at least a second illumination configuration different from the first one.

[(Fig. 1)]



**IN THE DRAWINGS:**

A proposed change to Figure 4 is submitted on a separate sheet.

ABSTRACT OF THE DISCLOSURE

An apparatus and a method for reading an optical code has a casing with a reading window. The casing includes an illumination device acting through the reading window on an optical code to be read, a detection device responsive to light scattered from the illuminated optical code into the casing through the reading window, and an objective lens interposed between the reading window and the detection device, in a position to pick up the light scattered from the illuminated optical code and project this light onto the detection device. The detection device has a plurality of light-sensitive elements effective to convert the light to electric signals representing the light image, wherein the illumination device has a first array of light sources active in a first illumination configuration, and at least a second array of light sources active in at least a second illumination configuration different from the first one.